

FORM PTO-1449	U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE	ATTY. DOCKET NO. SCIOS.010CP1	APPLICATION NO. 09/575,199
INFORMATION DISCLOSURE STATEMENT BY APPLICANT (USE SEVERAL SHEETS IF NECESSARY)		APPLICANT Jue et al.	
		FILING DATE May 18, 2000	GROUP 1647

U.S. PATENT DOCUMENTS						RECEIVED	
EXAMINER/LEADER INITIAL	DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE (IF APPROPRIATE)	
↓	1	5,378,613	01/1995	Belagaje			
	2	5,595,888	01/1997	Gray, et al.			
	3	5,705,362	01/1998	Bonekamp, et al.			
	4	5,785,965	07/1998	Pratt, et al.			
	5	5,935,820	08/1999	Hu, et al.			

FOREIGN PATENT DOCUMENTS							
EXAMINER INITIAL	DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	TRANSLATION	
						YES	NO

EXAMINER INITIAL	OTHER DOCUMENTS (INCLUDING AUTHOR, TITLE, DATE, PERTINENT PAGES, ETC.)	
↓	6	Ben-Bassat, Arie, "Methods for Removing N-Terminal Methionine from Recombinant Proteins", <u>Bioprocess Technol.</u> Vol. 12, pp. 147-159 (1991).
	7	Belagaje, RM. et al., "Increased Production of Low Molecular Weight Recombinant Proteins in Escherichia Coli", <u>Protein Sci.</u> , Vol. 6(9), pp. 1953-62 (Sept. 1997).
	8	Breier, Georg, et al., "Expression of Vascular Endothelial Growth Factor During Embryonic Angiogenesis and Endothelial Cell Differentiation", <u>Development</u> , Vol. 114, pp. 521-532 (1992).
	9	Dalboge, Henrik et al., "A Novel Enzymatic Method for Production of Authentic hGH from an Escherichia Coli Produced hGH-Precursor", <u>Bio/Technology</u> , Vol. 5, pp. 161-164 (February 1987).
	10	Ferrara, N., et al., "The Vascular Endothelial Growth Factor Family of Polypeptides", <u>J. Cell Biochem.</u> , Vol. 47(3), pp. 211-8, (Nov. 1991).
	11	Mohanraj, D., et al., "Expression of Biologically Active Human Vascular Endothelial Growth Factor in Yeast", <u>Growth Factors</u> , Vol. 12(1), pp. 17-27 (1995).
↓	12	Patel, SR, et al., "Safety of Direct Myocardial Administration of an Adenovirus Vector Encoding Vascular Endothelial Growth Factor 121", <u>Human Gene Therapy</u> , Vol. 10(8), pp. 1331-48 (May 20, 1999).

S:\DOCS\JJM\JJM-9497.DOC
121802

EXAMINER <i>J. Spector</i>	DATE CONSIDERED <i>2/4/03</i>
*EXAMINER: INITIAL IF CITATION CONSIDERED. WHETHER OR NOT CITATION IS IN CONFORMANCE WITH MPEP 609; DRAW LINE THROUGH CITATION IF NOT IN CONFORMANCE AND NOT CONSIDERED, INCLUDE COPY OF THIS FORM WITH NEXT COMMUNICATION TO APPLICANT.	

Paper # 18

FORM PTO-1449

U.S. DEPARTMENT OF COMMERCE
PATENT AND TRADEMARK OFFICEATTY. DOCKET NO.
SCIOS.010CP1APPLICATION NO.
09/575,199INFORMATION DISCLOSURE STATEMENT
BY APPLICANTAPPLICANT
Jue et al.FILING DATE
May 18, 2000GROUP
1646

USE SEVERAL SHEETS IF NECESSARY)

U.S. PATENT DOCUMENTS

EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE (IF APPROPRIATE)
	1	3 187 748	06/08/65	Mitchell et al.			
	2	3 565 070	02/23/71	Hanson et al.			
	3	3 658 059	04/25/72	Steil			
	4	3 814 297	06/04/74	Warren			
	5	3 826 413	07/30/74	Warren			
	6	4 527 769	07/09/85	Stogner et al.			
	7	4 592 348	06/03/86	Waters, IV et al.			
	8	4 648 393	03/10/87	Landis et al.			
	9	4 677 975	07/07/87	Edgar et al.			
	10	4 790 305	12/13/88	Zoltan et al.			
	11	4 803 978	02/14/89	Johnson, IV et al.			
	12	4 812 405	03/14/89	Lair et al.			
	13	4 818 700	04/04/89	Cregg et al.			
	14	4 896 832	01/30/90	Howlett			
	15	4 926 852	05/22/90	Zoltan et al.			
	16	4 992 901	02/12/91	Keel et al.			
	17	4 943 529	07/24/90	Van den Berg et al.			
	18	4 952 496	08/28/90	Studier et al.			
	19	5 194 596	03/16/93	Tischer et al.			
	20	5 219 739	06/15/93	Tischer et al.			
	21	5 240 848	08/31/93	Keck et al.			
	22	5 244 460	09/14/93	Unger et al.			
	23	5 332 671	07/26/94	Ferrara et al.			
	24	5 665 600	09/09/97	Hagenson et al.			
	25	5 693 489	12/02/97	Studier et al.			
	26	6 013 780	01/11/00	Neufeld et al.			01/21/97

Prev. of Record
See paper #4

RECEIVED

NOV 15 2002

TECH CENTER 1600/2900

EXAMINER

DATE CONSIDERED

*EXAMINER: INITIAL IF CITATION CONSIDERED, WHETHER OR NOT CITATION IS IN CONFORMANCE WITH MPEP 609; DRAW LINE THROUGH CITATION IF NOT IN CONFORMANCE AND NOT CONSIDERED, INCLUDE COPY OF THIS FORM WITH NEXT COMMUNICATION TO APPLICANT.

FORM PTO-1449

U.S. DEPARTMENT OF COMMERCE
PATENT AND TRADEMARK OFFICEATTY. DOCKET NO.
SCIOS.010CP1APPLICATION NO.
09/575,199INFORMATION DISCLOSURE STATEMENT
BY APPLICANT

(SEE SEVERAL SHEETS IF NECESSARY)

APPLICANT
Jue et al.FILING DATE
May 18, 2000GROUP
1646PATENT & TRADEMARK OFFICE
FOREIGN PATENT DOCUMENTS

EXAMINER INITIAL		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	TRANSLATION	
							YES	NO
J	27	EP 0 370 989 B1	05/30/90	European Patent Office				
	28	WO 91/02058	02/21/91	WIPO				
	29	EP 0 484 401 B1	05/13/92	European Patent Office				
	30	WO 93/12142	06/24/93	WIPO				
	31	WO 96/06641	03/07/96	WIPO				
	32	WO 98/10071	03/12/98	WIPO				
	33	WO 98/24811	06/11/96	WIPO				

RECEIVED

NOV 15 2002

TECH CENTER 1600/2900

EXAMINER INITIAL	OTHER DOCUMENTS (INCLUDING AUTHOR, TITLE, DATE, PERTINENT PAGES, ETC.)	
J	34	Achen et al., "Vascular endothelial growth factor D (VEGF-D) is a ligand for the tyrosine kinases VEGF receptor 2 (Flk1) and VEGF receptor 3 (Flt4)," <i>PNAS USA</i> , 95:548-553, 1998.
	35	Altschul et al., "Gapped BLAST and PSI-BLAST: a new generation of protein database search programs," <i>Nucleic Acids Research</i> , 25(17):3389-3402, 1997.
	36	Anthony, C. ed., <i>The Biochemistry of Methylophs</i> , Ch. 10, "Metabolism in the methylotrophic yeasts," Academic Press, pp. 269-295, 1982.
	37	Beach and Nurse, "High-frequency transformation of the fission yeast <i>Schizosaccharomyces pombe</i> ," <i>Nature</i> , 290:140-142, 1981.
	38	Cohen et al., "High levels of biologically active vascular endothelial growth factor (VEGF) are produced by the baculovirus expression system," <i>Growth Factors</i> , 7:131-138, 1992.
	39	Cohen et al., "VEGF ₁₂₁ , a vascular endothelial growth factor (VEGF) isoform lacking heparin binding ability, requires cell-surface heparan sulfates for efficient binding to the VEGF receptors of human melanoma cells," <i>J. Biological Chemistry</i> , 270(19):11322-11326, 1995.
	40	Conn et al., "Purification of a glycoprotein vascular endothelial cell mitogen from a rat glioma-derived cell line," <i>PNAS USA</i> , 87:1323-1327, 1990.
	41	Connolly et al., "Human vascular permeability," <i>J. Biological Chemistry</i> , 264(33):20017-20024, 1989.
	42	Connolly et al., "Tumor vascular permeability factor stimulates endothelial cell growth and angiogenesis," <i>J. Clin. Invest.</i> , 84:1470-1478, 1989.
	43	Cregg et al., "High-level expression and efficient assembly of hepatitis B surface antigen in the methylotrophic yeast, <i>pichia pastoris</i> ," <i>Bio/Technology</i> , 5:479-485, 1987.
	44	Dvorak et al., "Distribution of vascular permeability factor (Vascular Endothelial Growth Factor) in tumors: concentration in tumor blood vessels," <i>J. Exp. Med.</i> , 174:1275-1278, 1991.
	45	Ferrara and Henzel, "Pituitary follicular cells secrete a novel heparin-binding growth factor specific for vascular endothelial cells," <i>Biochemical and Biophysical Research Communications</i> , 161(2):851-858, 1989.
	46	Fiebich et al., "Synthesis and assembly of functionally active human vascular endothelial growth factor homodimers in insect cells," <i>Eur. J. Biochem.</i> , 211:19-26, 1993.
	47	Fiers et al., "Complete nucleotide sequence of SV40 DNA," <i>Nature</i> , 273:113-120, 1978.
J	48	Gitay-Goren et al., "Selective Binding of VEGF ₁₂₁ to one of the three vascular endothelial growth factor receptors of vascular endothelial cells," <i>J. of Biological Chemistry</i> , 271(10):5519-5523, 1996.

EXAMINER

DATE CONSIDERED

*EXAMINER: INITIAL IF CITATION CONSIDERED, WHETHER OR NOT CITATION IS IN CONFORMANCE WITH MPEP 609; DRAW LINE THROUGH CITATION IF NOT IN CONFORMANCE AND NOT CONSIDERED, INCLUDE COPY OF THIS FORM WITH NEXT COMMUNICATION TO APPLICANT.

FORM PTO-1449

U.S. DEPARTMENT OF COMMERCE
PATENT AND TRADEMARK OFFICEATTY. DOCKET NO.
SCIOS.010CP1APPLICATION NO.
09/575,199INFORMATION DISCLOSURE STATEMENT
BY APPLICANT

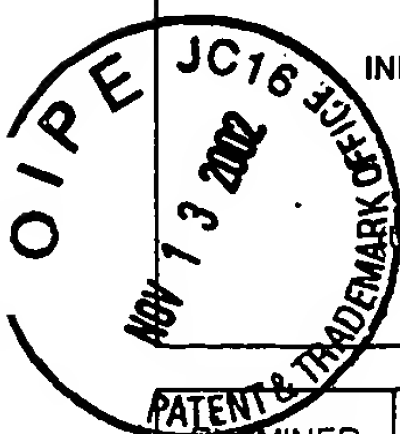
USE SEVERAL SHEETS IF NECESSARY)

APPLICANT
Jue et al.FILING DATE
May 18, 2000GROUP
1646

RECEIVED

NOV 15 2002

TECH CENTER 1600/2900



EXAMINER INITIAL	OTHER DOCUMENTS (INCLUDING AUTHOR, TITLE, DATE, PERTINENT PAGES, ETC.)	
	49	Goeddel, et al., "Direct expression in <i>Escherichia coli</i> of a DNA sequence coding for human growth hormone," <i>Nature</i> , 281:544-548, 1979.
	50	Gospodarowicz et al., "Isolation and characterization of a vascular endothelial cell mitogen produced by pituitary-derived folliculo stellate cells," <i>PNAS USA</i> , 86:7311-7315, 1989.
	51	Goto et al., "Synergistic effects of vascular endothelial growth factor and basic fibroblast growth factor on the proliferation and cord formation of bovine capillary endothelial cells within collagen gels," <i>Laboratory Investigation</i> , 69(5):508-517, 1993.
	52	Graham et al., "Characteristics of a Human Cell Line Transformed by DNA from Human Adenovirus Type 5" <i>J. gen. Virol.</i> , 36:59-74, 1977.
	53	Hinnen et al., "Transformation of yeast," <i>PNAS USA</i> , 75(4):1929-1933, 1978.
	54	Hitzeman et al., "Isolation and characterization of the yeast 3-phosphoglycerokinase gene (PGK) by an immunological screening technique," <i>J. Biological Chemistry</i> , 255(24):12073-12080, 1980.
	55	Holland and Holland, "Isolation and identification of yeast messenger ribonucleic acids coding for enolase, glyceraldehyde-3-phosphate dehydrogenase, and phosphoglycerate kinase," <i>Biochemistry</i> , 17(23):4900-4907, 1978.
	56	Houck et al., "Dual regulation of vascular endothelial growth factor bioavailability by genetic and proteolytic mechanisms," <i>J. Biological Chemistry</i> , 267(36):26031-26037, 1992.
	57	Houck et al., "The vascular endothelial growth factor family: identification of a fourth molecular species and characterization of alternative splicing of RNA," <i>Molecular Endocrinology</i> , 5:1806-1814, 1991.
	58	Keck, P. et al., "Vascular permeability factor, an endothelial cell mitogen related to PDGF," <i>Science</i> , 246:1309-1312, 1989.
	59	Keck, R. et al., "Disulfide structure of heparin binding domain in vascular endothelial growth factor: characterization of posttranslational modifications in VEGF," <i>Archives of Biochemistry and Biophysics</i> , 344(1): 103-113, 1997.
	60	Kelly and Hynes, "Transformation of <i>Aspergillus niger</i> by the <i>amdS</i> gene of <i>Aspergillus nidulans</i> ," <i>EMBO Journal</i> , 4(2):475-479, 1985.
	61	Kendall and Thomas, "Inhibition of vascular endothelial cell growth factor activity by an endogenously encoded soluble receptor," <i>PNAS USA</i> , 90:10705-10709, 1993.
	62	Keyt et al., "The carboxyl-terminal domain (111-165) of vascular endothelial growth factor is critical for its mitogenic potency," <i>J. Biological Chemistry</i> , 271(13):7788-7795, 1996.
	63	Kim et al., "Inhibition of vascular endothelial growth factor-induced angiogenesis suppresses tumor growth <i>in vivo</i> ," <i>Nature</i> , 362:841-844, 1993.
	64	Kondo et al., "The shortest isoform of human vascular endothelial growth factor/vascular permeability factor (VEGF/VPF ₁₂₁) produced by <i>Saccharomyces cerevisiae</i> promotes both angiogenesis and vascular permeability," <i>Biochimica et Biophysica Acta</i> , 1243:195-202, 1995.
	65	Koolwijk et al., "Cooperative effect of TNF α , bFGF, and VEGF on the formation of tubular structures of human microvascular endothelial cells in a fibrin matrix. Role of Urokinase activity," <i>J. Cell Biology</i> , 132(6):1177-1188, 1996.
	66	Korz et al., "Simple fed-batch technique for high cell density cultivation of <i>Escherichia coli</i> ," <i>J of Biotechnology</i> , 39:59-65, 1995.
	67	Leung et al., "Vascular endothelial growth factor is a secreted angiogenic mitogen," <i>Science</i> , 246:1306-1308, 1989.
	68	Mohanraj et al., "A novel method of purify recombinant vascular endothelial growth factor (VEGF121) expressed in yeast," <i>Biochemical and Biophysical Research Communications</i> , 215(2):750-756, 1995.
	69	Muller et al., "Vascular endothelial growth factor: crystal structure and functional mapping of the kinase domain receptor binding site," <i>PNAS USA</i> , 95:7192-7197, 1997.

EXAMINER

DATE CONSIDERED

*EXAMINER: INITIAL IF CITATION CONSIDERED, WHETHER OR NOT CITATION IS IN CONFORMANCE WITH MPEP 609; DRAW LINE THROUGH CITATION IF NOT IN CONFORMANCE AND NOT CONSIDERED, INCLUDE COPY OF THIS FORM WITH NEXT COMMUNICATION TO APPLICANT.

FORM PTO-1449

U.S. DEPARTMENT OF COMMERCE
PATENT AND TRADEMARK OFFICEATTY. DOCKET NO.
SCIOS.010CP1APPLICATION NO.
09/575,199INFORMATION DISCLOSURE STATEMENT
BY APPLICANTAPPLICANT
Jue et al.FILING DATE
May 18, 2000GROUP
1646

USE SEVERAL SHEETS IF NECESSARY)

PATENT & TRADEMARK
EXAMINER
INITIAL

OTHER DOCUMENTS (INCLUDING AUTHOR, TITLE, DATE, PERTINENT PAGES, ETC.)

- | | |
|----|---|
| 70 | Pepper et al., "Potent synergism between vascular endothelial growth factor and basic fibroblast growth factor in the induction of angiogenesis in vitro," <i>biochemical and Biophysical Research Communications</i> , 189(2):824-831, 1992. |
| 71 | Phillips et al., "Vascular endothelial growth factor (rhVEGF ₁₆₅) stimulates direct angiogenesis in the rabbit cornea," <i>In Vivo</i> , 8:961-966, 1994. |
| 72 | Plate et al., "Vascular endothelial growth factor is a potential tumour angiogenesis factor in human gliomas <i>in vivo</i> ," <i>Nature</i> , 359:845-848, 1992. |
| 73 | Plouët et al., "Isolation and characterization of a newly identified endothelial cell mitogen produced by AtT-20 cells," <i>EMBO Journal</i> , 8(12):3801-3806, 1989. |
| 74 | Siemeister et al., "Expression of biologically active isoforms of the tumor angiogenesis factor VEGF in <i>Escherichia coli</i> ," <i>Biochemical and Biophysical Research Communication</i> , 22:249-255, 1999. |
| 75 | Siemeister et al., "The α -helical domain near the amino terminus is essential for dimerization of vascular endothelial growth factor," <i>J. Biological Chemistry</i> , 273(18):11115-11120, 1998. |
| 76 | Soker et al., "Characterization of novel vascular endothelial growth factor (VEGF) receptors in tumor cells that bind VEGF ₁₆₅ via its exon 7-encoded domain," <i>J. Biological Chemistry</i> , 271(10):5761-5767, 1996. |
| 77 | Soker et al., "Neuropilin-1 is expressed by endothelial and tumor cells as an isoform-specific receptor for vascular endothelial growth factor," <i>Cell</i> , 92:735-745, 1998. |
| 78 | Tischer et al., "The human gene for vascular endothelial growth factor," <i>J. Biological Chemistry</i> , 266(18):1194-11954, 1991. |
| 79 | Urlaub et al., Isolation of Chinese hamster cell mutants deficient in dihydrofolate reductase activity," <i>Proc. Natl. Acad. Sci. USA</i> 77(7):4216-4220, 1980. |
| 80 | Vincenti et al., "Assignment of the vascular endothelial growth factor gene to human chromosome 6p21.3," <i>Circulation</i> , 93:1493-1495, 1996. |
| 81 | Wagner and Hynes, "Domain structure of fibronectin and its relation to function," <i>J. Biological Chemistry</i> , 254(14):6746-6754, 1979. |
| 82 | Waltenberger et al., "Different signal transduction properties of KDR and Flt1, two receptors for vascular endothelial growth factor," <i>J. Biological Chemistry</i> , 269(43):26988-26995, 1994. |
| 83 | Wang and Hanson, "Parenteral formulations of proteins and peptides: stability and stabilizers," <i>J. Parenteral Science and Technology</i> , 42(2S):S4-S26, 1988. |
| 84 | Yang et al., "Substantially attenuated hemodynamic responses to <i>Escherichia coli</i> -derived vascular endothelial growth factor given by intravenous infusion compared with bolus injection," <i>JPET</i> , 284(1):103-110, 1998. |

S:\DOCS\JJM\JJM-9085.DOC
103002

RECEIVED

NOV 15 2002

TECH CENTER 1600/2900

EXAMINER

DATE CONSIDERED

*EXAMINER: INITIAL IF CITATION CONSIDERED, WHETHER OR NOT CITATION IS IN CONFORMANCE WITH MPEP 609; DRAW LINE THROUGH CITATION IF NOT IN CONFORMANCE AND NOT CONSIDERED, INCLUDE COPY OF THIS FORM WITH NEXT COMMUNICATION TO APPLICANT.